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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/538;368

06/13/2005

Franciscus Josephus Alfonsus Maria Sessink

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EXAMINER

URBAN, EDWARD F

ART UNIT

PAPER NUMBER

2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/538,368

Applicant(s)

SESSINK ET AL.

Examiner

RuiMeng Hu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 06/13/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 06/13/2005, has been considered by the examiner.

Drawings

3. The drawings are objected to because of fail to label each feature descriptively.

Specification

4. The disclosure is objected to because of the following informalities:
 - a). On page 4 line 15, replace "R2" with --R1--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1-2, 5, 7, 9-10** are rejected under 35 U.S.C. 102(e) as being anticipated by **Tsuji et al (US Patent 6826392)**.

Consider **claim 1**, Tsuji et al. clearly disclose a filter circuit for suppressing high frequency noise in an FM-receiver (*Abstract, column 2 lines 4-10*), the circuit comprising a first filter branch (*figure 3, the first filter branch with a delay unit 5f, a subtractor 5g and a multiplier 5h*) and a second filter branch (*figure 3, the second filter branch with low frequency pass filter 5d*) connected in parallel, the first filter branch comprising a high pass filter (*column 6 lines 28-50, Tsuji et al. clearly disclose a alternative way to obtain high frequency components, which is that the signal component separator 5m could be configured to extract both the high-frequency component and the low-frequency component directly from the demodulated signal, although in that case very careful design would be required with respect to the cut-off frequencies and phase distortion of the high-frequency and low-frequency extraction circuits, thus the high-frequency extraction circuit equivalent to a high pass filter*) and a multiplier (*multiplier 5h*) for multiplying a signal passing through the first filter branch and a control signal (*the noise reduction coefficient output from 5b based on high frequency noise*) indicative of high frequency noise, and the second filter branch comprising a low pass filter (*figure 3, the second filter branch with low frequency pass filter 5d*).

Consider **claim 2 as applied to claim 1**, Tsuji et al. clearly disclose wherein the multiplier is arranged downstream from the high pass filter (*figure 3, multiplier 5h coupled to 5m*).

Consider **claim 5 as applied to claim 1**, Tsuji et al. clearly disclose an adder for adding a signal from the first filter branch and a signal from the second filter branch (*figure 3, adder 5i*).

Consider **claim 7 as applied to claim 1**, Tsuji et al. clearly disclose a noise detector circuit coupled to a filter circuit (*figures 3,9,10, noise detector circuit 5b outputs the noise reduction coefficient*).

Consider **claim 9 as applied to claim 7**, Tsuji et al. clearly disclose a stereo decoder (*figure 1, stereo demodulator 7*), wherein the filter circuit is located immediately before the stereo decoder.

Consider **claim 10**, Tsuji et al. clearly disclose a method of suppressing high frequency noise in an FM-receiver (*Abstract, column 2 lines 4-10, figure 3*), the method comprising: high pass filtering a first signal component (*column 6 lines 28-50, Tsuji et al. clearly disclose a alternative way to obtain high frequency components, which is that the signal component separator 5m could be configured to extract both the high-frequency component and the low-frequency component directly from the demodulated signal, although in that case very careful design would be required with respect to the cut-off frequencies and phase distortion of the high-frequency and low-frequency extraction circuits, thus the high-frequency extraction circuit equivalents to a high pass filter*), multiplying (*multiplier 5h*) the first signal component by a control signal indicative of the high frequency noise (*the noise reduction coefficient output from 5b based on high frequency noise*), low pass filtering a second signal component (*figure 3, the second*

filter branch with low frequency pass filter 5d), and adding the filtered first signal component and the filtered second signal component (figure 3, adder 5i).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. **Claims 3-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tsuji et al (US Patent 6826392)** in view of **Eastmond et al. (US Patent 4893349)**.

Consider **claim 3 as applied to claim 1**, **claim 4 as applied to claim 1**, Tsuji et al. fail to disclose wherein the high pass filter is devoid of a capacitor connected to ground; wherein the low pass filter comprises a series resistance and a capacitor connected to ground, and wherein the high-pass filter comprises a series capacitor and a resistor connected to ground.

In the same field of endeavor, Miyata clearly discloses wherein the high pass filter is devoid of a capacitor connected to ground (*column 10 lines 8-13, figures 7 and 9, high pass filter 112*); wherein the low pass filter comprises a series resistance and a capacitor connected to ground (*column 10 lines 8-13, figures 7 and 9, low pass filter 118*), and wherein the high-pass filter comprises a series capacitor and a resistor connected to ground (*column 10 lines 8-13, figures 7 and 9, high pass filter 112*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection technique taught by Eastmond et al. into the art of Tsuji et al. as to design a high pass filter and a low pass filter both constructed by resistance and capacitance for simplicity and low-cost.

11. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Tsuji et al (US Patent 6826392)** in view of **Hjorring (US Patent 4447909)**.

Consider **claim 6 as applied to claim 1**, Tsuji et al. clearly disclose the signal component separator 5m could be configured to extract both the high-frequency

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component and the low-frequency component directly from the demodulated signal, although in that case very careful design would be required with respect to the cut-off frequencies and phase distortion of the high-frequency (high pass filter) and low-frequency (low pass filter) extraction circuits.

However Tsuji et al. fail to specifically disclose wherein both the high pass filter and the low pass filter have a cut-off frequency ranging between 0.1 and 2.0 kHz, preferably between 0.2 and 1.1 kHz.

In the same field of endeavor, Hjorring clearly discloses in most frequency modulation (FM) radio systems, the audible output is filtered with a low-pass filter of the first order with a frequency cutoff at a few 100 Hz (0.1-1.0 KHz) (*column 1 lines 28-31*), thus it is understood to a person of ordinary skill in the art that selecting a low-pass filter to obtain the audible low frequency components and a high-pass filter to filter the high frequency components both with a cutoff frequency (or frequency diving point between low pass and high pass bands) in a range of few 100 Hz (0.1-1.0 KHz) is a design choice, therefore a selection of the cutoff frequencies to separate low pass and high pass bands in the range of few 100 Hz (0.1-1.0 KHz) is acceptable and employable.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection technique taught by Hjorring into the art of Tsuji et al. as to select the cutoff frequencies in the range of 0.1-1.0 KHz for the high-frequency and low-frequency extraction circuits since the technique is well known in the art and a matter of design choice.

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12. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Tsuji et al (US Patent 6826392)**.

Consider **claim 8 as applied to claim 7**, Tsuji et al. clearly disclose a stereo decoder, wherein the filter circuit is located immediately before the stereo decoder (*figure 1*).

However Tsuji et al. fail to disclose the filter circuit is located immediately after the stereo decoder, in this case it is understood to a person of ordinary skill in the art that locating a filter circuit before or after the decoder is simply a design choice, the function dimension of the filter circuit may not be altered.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made as to locate the filtered circuit after the stereo decoder to filter the decoded signal (left and right signals) as an alternative way, since making this design choice the function dimension of the filter circuit would not be altered.

Conclusion

13. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed**

to: Commissioner for Patents
P.O. Box 1450
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Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RuiMeng Hu whose telephone number is 571-270-1105. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RuiMeng Hu
R.H./rh
December 22, 2006

EDAN ORGAD
PATENT EXAMINER/TELECOMM.

[Handwritten signature] 12/26/07